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REMARKS

I. Status of the Application

Claims 1, 3, 4, 5-8, 10-21 are presently pending in the Application. Claims 1, 4, 6-8, 11, 13, 14, 16, 18 and 20 stand rejected under 35 U.S.C. §102(b) over US 5,100,651 ("Boyer"). Claims 14 and 18 stand rejected under 35 U.S.C. § 112, ¶2. Applicant has cancelled claims 7 and 13, as discussed further below.

Without any affirmative indication to the contrary, claims 3, 5, 10, 12, 15, 17, 19, and 21 are apparently allowed even though the Examiner did not positively indicate so in the Office Action Summary, as these claims do not presently stand rejected under the rejections discussed above.

Applicant further believes that the priority claim of the present Application was previously perfected upon entering the amendment to the specification made in the response entitled, "Amendment and Response to Final Office Action" dated 12/2/02 even though the Examiner did not positively indicate so in the present Office Action Summary. Specifically, the present application claims priority to U.S. application Serial No. 08/698,475, filed August 15, 1996 now U.S. Pat. No. 6,074,662, which claims priority from U.S. provisional application Serial No. 60/002,345, filed August 15, 1995.

II. Claims 1, 4, 6-8, 11, 13, 14, 16, 18 and 20 Are Patentable Over Boyer

Claims 1, 4, 6-8, 11, 13, 14, 16, 18 and 20 stand rejected under 35 U.S.C. §102(b) over Boyer. The Examiner is reinstating the rejection presented in the Office Action dated March 29, 2001 (Paper No. 11). Applicant respectfully traverses this rejection.

The Examiner asserts, in part, that Boyer discloses bromochlorophene as a cationic antimicrobial and that the Boyer chew is inherently negatively charged, as defined directly or indirectly by all currently rejected claims. Applicant respectfully disagrees with the Examiner because of at least the following two reasons.

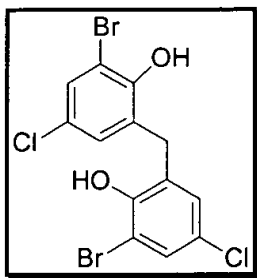
First, Boyer fails to disclose or otherwise teach or suggest a *cationic* antimicrobial because Boyer only discloses a health product consisting of the antimicrobial, bromochlorophene. In fact, bromochlorophene is the only antimicrobial taught or suggested by Boyer. For instance, at column 1, lines 39-44, Boyer discloses:

. . . the active elements are preferably constituted: as anti-decay agents, by fluorine-containing salts such as sodium fluoride, monofluorophosphate of sodium or other fluorine-containing salts alone or in a mixture[,] as an antimicrobial agent, by bromochlorophene [*sic: bromochlorophene*], and as an anti-tartar agent, by sodium benzoate.

In addition, Boyer only discloses at column 1, lines 48-49: “. . . antimicrobial agents such as bromochlorophene [*sic: bromochlorophene*], . . .” Even claims 1 and 2 of Boyer are admittedly limiting by claiming, “anti-microbial agents suitable for combating bacterial flora developed in dental plaque *consisting of* bromochlorophene . . .” (Emphasis added). Nowhere does Boyer teach or suggest an antimicrobial other than bromochlorophene.

A person of ordinary skill in the art recognizes that bromochlorophene is not cationic, i.e., it is not a positively charged compound. Bromochlorophene is known by those of skill in the art as being a charge neutral compound, as evidenced by its chemical structure shown in Figure 1 and Attachment A.

Figure 1: Bromochlorophene



In contrast, Applicant's claims define antimicrobials that are cationic, i.e., they are positively charged compounds, as evidenced by the chemical structures shown in Figures 2-5 and Attachments B-E.

Figure 2: Cetylpyridinium Chloride

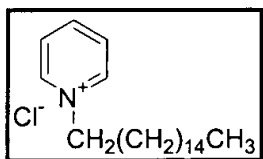


Figure 3: Benzalkonium Chloride

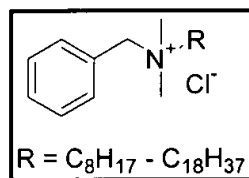


Figure 4: Domiphen Bromide

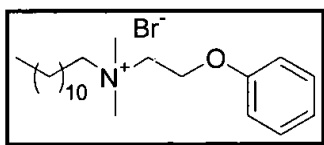
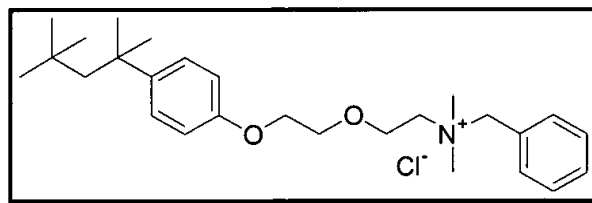


Figure 5: Benzethonium Chloride



It is thus evident from the structures above that Boyer fails to disclose or otherwise teach or suggest *cationic* antimicrobials.

Second, it is erroneous to infer that the Boyer chew is inherently negatively charged, as the Examiner asserts, since Boyer does not disclose a charged (positive or otherwise) antimicrobial or any other active agent. That is, because Boyer fails to disclose cationic

antimicrobials (or any other active agent), the Boyer chew need not necessarily be negatively charged. In fact, Boyer's use of a charge *neutral* antimicrobial (i.e., bromochlorophene) and the description of how the bromochlorophene (referred to as an active element at column 1, lines 39-44) is impregnated in the support in view of how Applicant's antimicrobials are maintained on the carrier, leads one to believe that the Boyer support is not necessarily charged:

The support is first of all immersed in an aqueous solution having a concentration of active elements in a given proportion during a period of approximately 48 hours so as to cause the support to be impregnated by or to absorb these elements . . . (Column 1, lines 62-64).

In contrast, Applicant teaches at page 4, lines 15-20 how the cationic antimicrobials are maintained on the surface of the carrier on the basis of charge attraction:

An embodiment of the invention describes a formulation that utilizes a proteinaceous animal chew such as rawhide, and **a dentally therapeutic cation, (in this example, chlorhexidine) that is maintained on the surface of the chew on the basis of charge attraction.** The cationic antimicrobials become strongly bound to negatively-charged surfaces containing negatively charged moieties such as carboxylic, phosphate and sulfate moieties by forming salt bridges. (Emphasis added.)

Nowhere does Boyer disclose its antimicrobial, bromochlorophene, being maintained on the support by charge attraction. This is likely due to the fact that bromochlorophene is charge *neutral*. Accordingly, the support of Boyer need not be necessarily charged (positive or otherwise) for the antimicrobial to be maintained within it.

Boyer's support need not be negatively charged given the different mechanism of release of the antimicrobial of Boyer from that of Applicant. It also becomes apparent from their respective mechanisms that Applicant's carrier is therapeutically advantaged over Boyer's support. Boyer's mechanism of release of the antimicrobial from the support is described at column 1, lines 53-59:

As a modification, the support is formed by the tendon of the neck of the ox or by any other relatively supple but strong material, optionally digestible, that the **animal may chew or gnaw at will and cause the release of the incorporated active elements by a repeated mechanical effect in a salivary medium** comparable to an effective brushing. (Emphasis added.)

In Boyer, then, mechanical chewing induces release of the antimicrobial from the support.

In contrast, the present application discloses at page 4, lines 10-14 that due to its cationic nature, the antimicrobial is readily solubilized in saliva, rather than requiring mechanical chewing as taught by Boyer:

The therapeutic substance is located on or near the surface of the chewable object in order **for intimate contact between the moisture of saliva and the therapeutic substance to occur almost immediately** upon the start of the chewing cycle so as to minimize the possibility that the therapeutic substance will be consumed with the chew, rather than being released in to the oral cavity. (Emphasis added.)

Applicant further explains at page 4, line 25 – page 5, line 3 how the cationic nature of the antimicrobial renders the antimicrobial readily soluble in saliva:

In a preferred embodiment, **the cation is rapidly solubilized in the saliva** of the oral cavity when the cation is combined with or deposited on the chew in the presence of an alkali metal salt such as sodium gluconate. It has unexpectedly been found that the presence of the alkali metal salt effectively prevents the cationic compound from precipitating or otherwise adhering to the proteinaceous carrier, thus rendering it **readily soluble in saliva** during the chewing cycle. (Emphasis added.)

Thus, Applicant's mechanism of release of the antimicrobial from the chewable object into the saliva is advantaged over Boyer inasmuch as Applicant's cationic antimicrobial is readily soluble in saliva. The antimicrobial of Boyer, on the other hand, is not released from the support until *repeated mechanical chewing* of the animal. The significance of this difference is apparent from the present application at page 4, lines 2-4:

Cationic antimicrobials that are released from the carrier in the presence of saliva are observed to **have a long duration of action**, due to their retention and adherence to the negatively charged surface in the oral cavity, e.g., enamel hydroxyapatite, acquired pellicle protein, and the oral mucosa.

and at page 5, lines 6-8:

Thus, the therapeutic cation is released into the salivary solution during the chewing cycle, rather than carried into the intestinal tract as a result of being bound irreversibly to the carrier.

Accordingly, the present animal chew is advantaged over Boyer's health product since the former (having a cationic antimicrobial) will readily solubilize in the oral cavity, whereas the latter (having a charge neutral antimicrobial) will potentially not fully release into the oral cavity, and accordingly will be carried into the intestinal tract. Thus, the present animal chew is expected to provide a greater degree of the desired therapeutic effect over Boyer's health product.

Accordingly, for the reasons discussed above, Applicant respectfully requests removal of the rejection over Boyer and allowance of all currently rejected pending claims at this time.

III. Claims 14 and 18 Are Allowable

Claims 14 and 18 are rejected under 35 U.S.C. § 112, ¶2. Specifically, the Examiner asserts that claims 9 and 13 are duplicative of claims 14 and 18, respectively. Applicant believes that the Examiner intended to assert that claims 7 and 13 are duplicative of claims 14 and 18, respectively, in view of the fact that claim 9 was previously cancelled without prejudice in Applicant's amendment dated December 15, 2000. Accordingly, Applicant's discussion below relating to claims 7 and 13 is intended to be fully responsive to the present rejection.

Applicant has cancelled claims 7 and 13 above. Claims 7 and 13 are cancelled without prejudice to Applicant's right to later present such claim in this or any other patent application,

including, without limitation, any future continuation, division, continuation-in-part, reissue, reexamination or other application. Accordingly, the rejection of claims 14 and 18 is overcome and allowance of these claims is respectfully requested at this time.

IV. Conclusion

Having addressed all outstanding issues, Applicant respectfully requests reconsideration and allowance of claims 1, 4, 6-8, 11, 13, 14, 16, 18 and 20 at this time.

Respectfully submitted,

Dated: _____

May 9, 2003



John P. Iwanicki, Reg. No. 34,628
BANNER & WITCOFF, LTD.
28 State Street, 28th Floor
Boston, MA 02109
617-720-9600

Rapa (Turnip) Seed Extract (Cont.)**Class:** Biological Products**Not Reported****Other Names:**

Rapa (EU)

Rapa Seed Extract

Brassica Rapa Seed

Turnip (Brassica Rapa) Seed

Seed Extract

Mixture:

Qing Extract (Campo)

TLASee "Regulatory and Ingredient Use
regarding use of EU Trivial names
Introduction, Part A.**Other Name:**

Oil (U.S.)

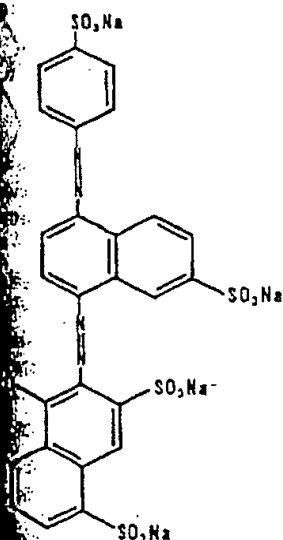
BLACK 1**EINECS No.**

219-746-5

Formula: $C_{12}H_8 \cdot 4Na$

Brilliant Black 1 is classed

as a disazo color. It conforms to the

and Ingredient Use Informa-
tion in Volume 1, Introduction,**Sources:** CI 28440**Color Additives:****Function:** Colorant**Technical/Other Names:**

4-(Acetylamino)-5-Hydroxy-6-[[7-Sulfo-4-[(4-Sulfo-phenyl)Azo]-1-Naphthalenyl]Azo]-1,7-Naphthalenedisulfonic Acid, Tetrasodium Salt

Black PN

Brilliant Black PN

CI 28440

Food Black 1

1,7-Naphthalenedisulfonic Acid, 4-(Acetyl-amino)-5-Hydroxy-6-[[7-Sulfo-4-[(4-Sulfo-phenyl)Azo]-1-Naphthalenyl]Azo]-, Tetra-sodium Salt

Trade Name:

Sicovit Brilliant Black E 151 (BASF)

BRINE SHRIMP EXTRACT**Definition:** Brine Shrimp Extract is an extract of the shrimp, *Artemia salina*.**Chemical Class:** Biological Products**Function:** Not Reported**Technical/Other Names:**

Extract of Brine Shrimp

Trade Name Mixture:

Extrait d'Artemia MPE PG5 (Yves Rocher)

BROMELAIN**CAS Nos.**

9001-00-7

37189-34-7

EINECS Nos.

232-572-4

253-384-9

Definition: Bromelain is a mixture of enzymes found in pineapple juice.**Information Sources:** BAN, 21CFR184.1024, INN, JAN, MI-12(1409), TSCA, USAN**Chemical Class:** Proteins**Functions:** Lytic Agent; Skin-Conditioning Agent - Miscellaneous**Technical/Other Names:**

Bromelain, Juice

Bromelain Ananase

Fruit Bromelain

Trade Name:

Rona/Merck KGaA - Bromelain (Rona/EM Industries)

Trade Name Mixture:

Fructinase (Serobiologiques)

BROMELIA BALANSEA**Definition:** See "Regulatory and Ingredient Use Information," regarding EU labeling names for botanical derived ingredients in Volume 1, Introduction, Part A.**Bromocinnamal****Chemical Class:** Biological Products**Technical/Other Name:**

Bromelia Balansea Extract (U.S.)

BROMELIA BALANSEA EXTRACT**Definition:** Bromelia Balansea Extract is an extract of the bromelia, *Bromelia balansea*. See "Regulatory and Ingredient Use Information," regarding the labeling names for botanical derived ingredients in Volume 1, Introduction, Part A.**Chemical Class:** Biological Products**Function:** Not Reported**Technical/Other Names:**

Bromelia Balansea (EU)

Extract of Bromelia Balansea

Trade Name Mixture:

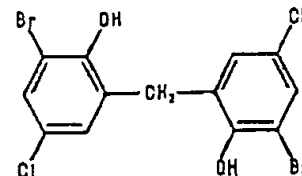
VT-229 Extract of Bromelia (Vege-Tech)

BROMOCHLOROPHENE**CAS No.**

15435-29-7

EINECS No.

239-446-8

Definition: Bromochlorophene is the halogenated aromatic compound that conforms to the formula:**Information Sources:** EEC(M/1-37)**Chemical Classes:** Halogen Compounds; Phenols**Functions:** Cosmetic Biocide; Deodorant Agent**Technical/Other Names:**

Brophen

3,3'-Dibromo-5,5'-Dichloro-2,2'-Dihydroxydiphenylmethane

3,3'-Dibromo-5,5'-Dichloro-2,2'-Dihydroxydiphenylmethane

6,6-Dibromo-4,4'-Dichloro-2,2'-Methylene-Diphenol

2,2'-Methylenebis[6-Bromo-4-Chlorophenol]

2,2'-Methylenebis[6-Bromo-4-Chlorophenol]

Phenol, 2,2'-Methylenebis[6-Bromo-4-Chloro-

BROMOCINNAMAL**CAS No.**

5443-49-2

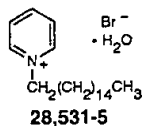
EINECS No.

226-637-6

Inclusion of any compound in the Dictionary and Handbook does not indicate that use of that substance as a cosmetic ingredient complies with the laws and regulations governing such use in the United States or any other country.

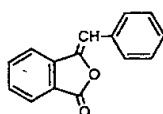
\$.90
 .80
 1.40
 1.10
 3.80
 3.00
 7.30
 3.70
 2.10
 11.10
 14.60
 44.70
 18.30
 60.90
 22.70
 75.50
 54.70
 19.30
 55.60
 158.80
 58.10
 180.00
 21.40
 61.90
 16.00
 53.20
 195.50
 38.70
 114.70
 101.50
 32.10
 112.40
 42.70
 159.90
 24.90
 93.20
 16.20
 34.70
 119.90
 106.60
 16.80
 49.00
 54.40
 185.90
 17.30
 44.00
 31.90
 106.90
 42.60
 470.60
 42.40
 42.00

45,174-6	Cesium tetrachloroaluminate, 99.99% [17992-03-9] CsAlCl ₄ FW 301.70.....	5g 25g	51.70 197.70
	CORROSIVE (Packaged under argon in ampules)		
46,665-4	Cesium tetraphenylborate, 98% [3087-82-9] (C ₆ H ₅) ₄ BCs FW 452.14 mp >400°	1g 10g	12.00 66.60
	IRRITANT LIGHT-SENSITIVE		
49,463-1	Cesium titanate, 99.9+% [98084-25-4] (cesium hexatitanate) Cs ₂ Ti ₆ O ₁₃	100g	77.20
NEW	FW 761.20 mp >300° IRRITANT		
36,776-1	Cesium trifluoroacetate, 99.99+% [21907-50-6] (trifluoroacetic acid, cesium..... salt) CF ₃ CO ₂ Cs FW 245.92 mp 114-116° Fieser 11,557 14,322 FT-NMR 1(1),853C R&S 1(1),623E IRRITANT HYGROSCOPIC	10g 50g	21.80 49.70
48,333-8	Cesium triiodide, 99.9+% [762-62-9] CsI ₃ FW 513.62 mp 207.5° d 4.510	5g 25g	32.90 91.30
	TERATOGEN IRRITANT		
49,550-6	Cesium tungstate, 99.95% [13587-19-4] Cs ₂ WO ₄ FW 513.66 mp >350°	25g	45.70
NEW	★		
38,895-5	Cetrimide [8044-71-1] (alkyltrimethylammonium bromide, predominantly C ₁₄) . mp 239°(dec.) R&S 1(1),419H CORROSIVE HYGROSCOPIC Predominantly C ₁₄ H ₂₉ N(CH ₃) ₃ Br but also contains C ₁₂ and C ₁₆ homologs Cetrimonium bromide, see 85,582-0, Cetyltrimethylammonium bromide page 357 Cetyl alcohol, see 1-Hexadecanol Cetyl bromide, see 23,445-1, 1-Bromohexadecane page 256	100g 500g	29.00 85.10
22,899-0	Cetyldimethylethylammonium bromide, 85% [124-03-8].....	5g 100g 500g	9.60 33.00 106.90
★	CH ₃ (CH ₂) ₁₅ N(CH ₃) ₂ (C ₂ H ₅)Br FW 378.49 mp 190°(dec.) Beil. 4(3),425 Merck Index 12,2071 FT-IR 1(1),395A Safety 2,717D R&S 1(1),419M RTECS# BQ5425000 TOXIC IRRITANT Remainder stearyl compound Cetyl palmitate, see 38,833-5, Hexadecyl hexadecanoate page 884		
28,531-5	Cetylpyridinium bromide monohydrate, 98% (1-hexadecylpyridinium bromide) FW 402.47 mp 67-71° Beil. 20(4),2317 Safety 2,718A R&S 1(2),2491A RTECS# UU4848000 IRRITANT HYGROSCOPIC	25g 100g	14.20 27.60
★			
85,556-1	Cetylpyridinium chloride monohydrate, 98% [6004-24-6] FW 358.01 mp 83-86° . Beil. 20(4),2316 Merck Index 12,2074 FT-NMR 1(3),235C FT-IR 1(2),730C - Safety 2,718B R&S 1(2),2489L RTECS# UU5075000 IRRITANT	5g 100g 500g	7.80 19.80 77.60
★			
85,582-0	Cetyltrimethylammonium bromide [57-09-0] (cetrimonium bromide).....	5g 100g 500g	19.50 28.50 83.10
★	CH ₃ (CH ₂) ₁₅ N(CH ₃) ₃ Br FW 364.46 mp >230°(dec.) Beil. 4(3),424 Fieser 15,77 Merck Index 12,2068 FT-IR 1(1),394D Safety 2,718C R&S 1(1),419J RTECS# BQ7875000 CORROSIVE TOXIC Phase-transfer catalyst for polyamide, ¹ polycarbonate, ² and polythiocarbonate ² formation. (1) <i>Macromolecules</i> 1994, 27, 1087. (2) <i>J. Macromol. Sci., Pure Appl. Chem.</i> 1994, A31, 283.		
29,273-7	Cetyltrimethylammonium chloride, 25 wt. % solution in water [112-02-7].....	25mL 500mL	22.00 35.50
★	(hexadecyltrimethylammonium chloride) CH ₃ (CH ₂) ₁₅ N(CH ₃) ₃ Cl FW 320.01 n _D 1.3778 d 0.968 Fp none Beil. 4(1),388 Safety 2,718D R&S 1(1),419I IRRITANT		
37,459-8	Cetyltrimethylammonium hydrogensulfate, 99% [68214-07-3].....	1g 5g	13.90 45.70
★	CH ₃ (CH ₂) ₁₅ N(CH ₃) ₃ (HSO ₄) FW 381.62 mp 250-260°(dec.) Beil. 4(3),425 FT-NMR 1(1),614C R&S 1(1),419L IRRITANT HYGROSCOPIC CFX™, see 26,066-5, Graphite, fluorinated, polymer page 867		
51,787-9	trans-Chalcone-d ₁₂ , 98 atom % D (benzylidenacetophenone-d ₁₂)	500mg	71.10
NEW	C ₆ D ₅ CD=CDCCOC ₆ D ₅ FW 220.36 mp 55-57° bp 208°/25mm HYGROSCOPIC		
13,612-3	trans-Chalcone, 97% [614-47-1] (benzylidenacetophenone).....	5g 100g	14.60 21.10
	C ₆ H ₅ CH=CHCOC ₆ H ₅ FW 208.26 mp 55-57° bp 208°/25mm Fp >230°F(110°C) Beil. 7,478 FT-NMR 1(2),875C FT-IR 1(2),51D R&S 1(2),1661A RTECS# FL6900000		
	CHAPS, see 22,694-7, 3-[(3-Cholamidopropyl)dimethylammonio]-1-propane- sulfonate page 423 CHAPSO, see 37,423-7, 3-[(3-Cholamidopropyl)dimethylammonio]-2-hydroxy- 1-propanesulfonate page 423 Charcoal, see Activated carbon		



■ Benzaldehy ■

			\$
41,809-9	Benzaldehyde, redistilled, 99.5+% [100-52-7] C_6H_5CHO FW 106.12 mp -26°	100mL	21.50
★	bp 178-179° n_D^{25} 1.5450 d 1.044 Fp 145°F(62°C) Beil. 7,174 Merck Index 12,1085 RTECS# CU4375000 CANCER SUSPECT AGENT MUTAGEN (Packaged under nitrogen in Sure/Seal™ bottles)	500mL	40.40
B133-4	Benzaldehyde, 99+% [100-52-7] C_6H_5CHO	2g	6.30
★	Chlorine-free	5g	12.30
		100g	17.60
		1kg	23.40
		3kg	39.90
		18kg	158.80
		25g	33.50
27,298-1	<i>trans,trans</i> -Benzaldehyde azine, 99% [28867-76-7] (benzalazine)		
	$C_6H_5CH=NN=CHC_6H_5$ FW 208.26 mp 92-93° Beil. 7,225 FT-NMR 1(3),546A R&S 1(2),2727L IRRITANT		
22,607-6	Benzaldehyde dimethyl acetal, 99% [1125-88-8] (α,α -dimethoxytoluene)	5g	13.00
★	$C_6H_5CH(OCH_3)_2$ FW 152.20 bp 87-89°/18mm n_D^{25} 1.4930 d 1.014 Fp 157°F(69°C) Beil. 7,209 FT-NMR 1(2),238A FT-IR 1(1),1066D Safety 2,345D R&S 1(1),1261A RTECS# CU5774000 MOISTURE-SENSITIVE IRRITANT An effective reagent used for construction of selenocarbonyl compounds. Tetrahedron Lett. 1992, 33, 7865.	100g	23.30
		500g	84.80
38,143-8	Benzaldehyde dimethyl acetal, 95% [1125-88-8] $C_6H_5CH(OCH_3)_2$	100mL	22.70
★		500mL	89.30
42,960-0	Benzaldehyde 2,4-dinitrophenylhydrazone, environmental standard, 99%	20mg	69.30
	[1157-84-2] $C_6H_5CH=NNHC_6H_3(NO_2)_2$ FW 286.25 mp 239-241° Beil. 15(2),217 IRRITANT		
24,567-4	<i>syn</i> -Benzaldehyde oxime, 98% [622-32-2] $C_6H_5CH=NOH$ FW 121.14 mp 34-36°	10g	14.60
	bp 104°/6mm n_D^{25} 1.5910 Fp 228°F(108°C) Beil. 7,218 FT-NMR 1(3),492A Safety 2,346B IRRITANT	50g	48.60
	Benzaldehyde-2-sulfonic acid, sodium salt, see 23,938-0, 2-Formylbenzene- sulfonic acid, sodium salt page 838		
24,170-9	Benzaldehyde tosylhydrazone, 98% [1666-17-7] $C_6H_5CH=NNHSO_2C_6H_4CH_3$	5g	42.10
	FW 274.34 mp 130-131° Beil. 11(3),317 FT-NMR 1(3),545B FT-IR 1(2),983C Safety 2,346D R&S 1(2),2727G IRRITANT	25g	137.50
23,442-7	Benzalkonium chloride [8001-54-5] (alkylbenzyltrimethylammonium chloride) ...	5g	5.90
	$C_6H_5CH_2N(CH_3)_3Cl$ (R= C_6H_{17} to $C_{18}H_{37}$) FT-IR 1(1),1322A Safety 2,347A R&S 1(1),1539B RTECS# B03150000 TOXIC IRRITANT	100g	15.20
		1kg	78.20
B180-6	Benzaldehyde [575-61-1] (3-benzylidenephthalide) FW 222.24 mp 99-102°	100g	21.80
	Beil. 17,376 FT-NMR 1(2),1309A FT-IR 1(2),321C R&S 1(2),1939M RTECS# T13686000	500g	62.90
49,183-7	Benzamide-carbonyl- ^{13}C , 99 atom % ^{13}C [88058-12-2] $C_6H_5^{13}CONH_2$ FW 122.13	500mg	220.70
	mp 128-129° Manufactured by ISOTEC INC.		
42,544-3	Benzamide- ^{15}N , 99 atom % ^{15}N [31656-62-9] $C_6H_5CO^{15}NH_2$ FW 122.13	250mg	40.20
	mp 127-130° (Packaged in screw-cap vials)	1g	109.90
15,076-2	Benzamide, sublimed, zone refined, 99.9% [55-21-0] $C_6H_5CONH_2$ FW 121.14	250mg	17.50
★	mp 128-130° Beil. 9,195 Merck Index 12,1087 FT-NMR 1(2),1383C R&S 1(2),2015A RTECS# CU8700000	1g	48.80
39,933-7	Benzamide, sublimed, 99.5+% [55-21-0] $C_6H_5CONH_2$	5g	18.60
★		25g	62.00
13,582-8	Benzamide, 99% [55-21-0] $C_6H_5CONH_2$	5g	15.40
★		100g	21.90
		500g	44.50
		2kg	162.10
43,476-0	Benzamidine hydrochloride, 99% [1670-14-0] $C_6H_5C(=NH)NH_2 \cdot HCl$ FW 156.61 ...	5g	24.10
★	mp 169-173° Beil. 9,280 RTECS# CV6260000 IRRITANT HYGROSCOPIC	25g	77.60
B200-4	Benzamidine hydrochloride hydrate, 97% $C_6H_5C(=NH)NH_2 \cdot HCl \cdot xH_2O$ FW 156.61	5g	15.20
	mp 86-88° Beil. 9,280 Fieser 6,27 FT-NMR 1(2),1467A FT-IR 1(2),412A R&S 1(2),2087A RTECS# CV6260000 IRRITANT Used in a "one-pot" preparation of imidazolines from cyclic sulfates of vicinal diols. Tetrahedron Lett. 1991, 32, 999.	25g	42.30
		100g	120.60



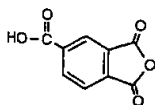
B180-6

■ Dodecyltri ■

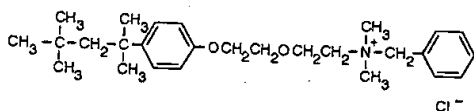
ng	904.60	0517,262-6	Dodecyltriphenylphosphonium bromide, 98% [15510-55-1]..... <chem>CH3(CH2)11P(C6H5)3Br</chem> FW 511.53 mp 85-88° <i>Beil.</i> 16(4),983 IRRITANT HYGROSCOPIC	1g 10g	\$ 7.70 42.20
nL	18.20	41,349-6	Dodecyl vinyl ether, 98% [765-14-0] <chem>CH3(CH2)11OCH=CH2</chem> FW 212.38 bp 117-120° n _D 1.4382 d 0.817 Fp >230°F(110°C) IRRITANT	250mL 1L	18.70 48.60
1L	20.50	24,440-6	1-Dodecyne, 98% [765-03-7] <chem>CH3(CH2)9C≡CH</chem> FW 166.31 mp -19° bp 215° n _D 1.4340 d 0.778 Fp 175°F(79°C) <i>Beil.</i> 1,261 FT-NMR 1(3),504B FT-IR 1(2),933A Safety 2,1496C R&S 1(2),2697M IRRITANT	5g 25g	22.80 80.40
nL	19.00		Dolcymene, see C12,145-2, p-Cymene page 484		
1L	32.90	24,748-0	Domiphen bromide, 97% [538-71-6] [(dodecyl dimethyl-2-phenoxyethyl)- ammonium bromide] <chem>CH3(CH2)11N(CH3)2(CH2CH2OC6H5)Br</chem> FW 414.48 mp 117-119° <i>Merck Index</i> 12,3474 Safety 2,1496D R&S 1(1),1539D RTECS# BQ2030000	25g 100g	20.60 55.70
5g	22.40		DOP, see D20,115-4, Dioctyl phthalate page 690		
10g	55.50	10,216-4	DL-DOPA, 97% [63-84-3] [3-(3,4-dihydroxyphenyl)-DL-alanine]..... <chem>(HO)2C6H3CH2CH(NH2)CO2H</chem> FW 197.19 mp 290°(dec.) <i>Beil.</i> 14(1),681 <i>Merck</i> <i>Index</i> 12,3478 FT-NMR 1(2),1190A FT-IR 1(2),257A R&S 1(2),1847H RTECS# AY5250000 IRRITANT LIGHT-SENSITIVE	2.5g	11.90
0g	73.40	33,378-6	L-DOPA-ring-d ₃ , 98+ atom % D [53587-29-4] [3-(3,4-dihydroxyphenyl-2,5,6- d ₃)-L-alanine] <chem>(HO)2C6D3CH2CH(NH2)CO2H</chem> FW 200.22 mp 292°(dec.) [α] _D ²⁵ -11.5° (c=5, 1N HCl) R&S 1(2),2939A IRRITANT HYGROSCOPIC (Packaged in screw-cap bottles)	250mg 1g	33.10 92.20
5g	20.20	15,431-8	L-DOPA, 99% [59-92-7] [3-(3,4-dihydroxyphenyl)-L-alanine]..... <chem>(HO)2C6H3CH2CH(NH2)CO2H</chem> FW 197.19 mp 295°(dec.) [α] _D ²⁵ -11° (c=1, 1N HCl) <i>Beil.</i> 14(1),681 <i>Merck Index</i> 12,5490 FT-NMR 1(2),1190B FT-IR 1(2),257B R&S 1(2),1847I RTECS# AY5600000 IRRITANT LIGHT-SENSITIVE 99% ee/GLC	1g 5g 25g	10.80 20.10 75.70
mg	57.00		Dopamine, see 3-Hydroxytyramine		
mg	210.00		Dotriacontafluoropentadecane, see 44,680-7, Perfluoropentadecane page 1286		
25g	22.00	122,310-7	Dotriacontane, 97% [544-85-4] <chem>CH3(CH2)30CH3</chem> FW 450.88 mp 68-70° bp 467° FT-NMR 1(1),8B FT-IR 1(1),6D Safety 2,1497B R&S 1(1),7E RTECS# JT2360000	5g 25g	19.80 78.30
30g	60.70		Dowanol™ DB, see 48,429-6, Di(ethylene glycol) butyl ether page 578		
			Dowanol™ DM, see 48,426-1, Di(ethylene glycol) methyl ether page 579		
			Dowanol™ DPM, see 48,425-3, Di(propylene glycol) methyl ether, mixture of isomers page 706		
10g	11.60		Dowanol™ DPMA, see 48,420-2, Di(propylene glycol) methyl ether acetate, mixture of isomers page 706		
00g	93.30		Dowanol™ DPnB, see 48,423-7, Di(propylene glycol) butyl ether, mixture of isomers page 706		
00g	18.70		Dowanol™ DPnP, see 48,421-0, Di(propylene glycol) propyl ether, mixture of isomers page 706		
25g	42.00		Dowanol™ EB, see 48,428-8, Ethylene glycol butyl ether page 773		
00g	118.60		Dowanol™ Eph, see 48,431-8, Ethylene glycol phenyl ether page 775		
			Dowanol™ PM, see 48,440-7, 1-Methoxy-2-propanol page 1077		
mL	17.50		Dowanol™ PMA, see 48,443-1, 1-Methoxy-2-propanol acetate page 1077		
1L	48.40		Dowanol™ PnB, see 48,441-5, Propylene glycol butyl ether, mixture of isomers (page 1436)		
mL	16.30		Dowanol™ PnP, see 48,432-6, Propylene glycol propyl ether, mixture of isomers (page 1436)		
1g	17.00		Dowanol™ PPh, see 48,442-3, 1-Phenoxy-2-propanol page 1294		
5g	56.50		Dowanol™ TPM, see 48,424-5, Tri(propylene glycol) methyl ether, mixture of isomers page 1697		
25g	25.00		Dowanol™ TPnB, see 48,422-9, Tri(propylene glycol) butyl ether, mixture of isomers page 1697		
00g	87.60	44,654-8	DOW CORNING® 702 silicone diffusion pump fluid [68037-71-8]..... bp 180°/0.5mm n _D 1.5200 d 1.070 Fp >230°F(110°C) IRRITANT	500mL 5x500mL	101.50 482.20
		44,597-5	DOW CORNING® 704 silicone diffusion pump fluid [3982-82-9] (1,3,3,5-tetra- methyl-1,1,5,5-tetraphenyltrisiloxane) <chem>[CH3Si(C6H5)2O]2Si(CH3)2</chem> FW 484.82 bp 215°/0.5mm n _D 1.5590 d 1.070 Fp 214°F(101°C) IRRITANT	500mL 5x500mL	136.50 648.00
CH ₂ (CH ₂) ₃ CH ₃		44,598-3	DOW CORNING® 705 silicone diffusion pump fluid [3390-61-2] (1,3,5- trimethyl-1,1,3,3,5-pentaphenyltrisiloxane) <chem>[CH3Si(C6H5)2O]2Si(CH3)3</chem> FW 546.90 bp 245°/0.5mm n _D 1.5800 d 1.090 Fp 214°F(101°C) IRRITANT	500mL 5x500mL	232.50 1,104.10

■ Benzenethi ■

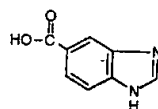
\$					
12.50	T3,280-8	Benzenethiol, 97% [108-98-5] (thiophenol) C ₆ H ₅ SH	5g†	\$	9.70
18.90	★		100g†		16.20
46.80			500g†		40.40
21.70			1kg†		72.80
71.60	41,829-3	Benzenethiol, sodium salt, tech., 90% [930-69-8] (sodium thiophenoxide,	10g		22.10
8.60	★	thiophenol, sodium salt) C ₆ H ₅ SNa FW 132.16 mp >300° Beil. 6,296	50g		73.20
9.00		MOISTURE-SENSITIVE TOXIC			
12.40	38,589-1	Benzenethionosulfonic acid, sodium salt, tech., 85% C ₆ H ₅ S(=S)(=O)ONa	25g		19.70
49.30		FW 196.22 mp 275°(dec.) Beil. 11,87 R&S 1(2),2205H HYGROSCOPIC			
20.40	11,931-8	(Benzene)tricarboxylchromium, 98% [12082-08-5] (C ₆ H ₆)Cr(CO) ₃ FW 214.14	1g		62.50
216.80		mp 163-166° Beil. 5(4),625 Fieser 6,27 13,19 FT-IR 1(2),1297D R&S 1(2),3135L	5g		249.70
		RTECS# GB4700000			
15.10	14,753-2	1,3,5-Benzenetricarbonyl trichloride, 98% [4422-95-1] C ₆ H ₃ (COCl) ₃ FW 265.48 ..	10g		18.00
18.30	★	mp 34.5-36° bp 180°/16mm Fp >230°F(110°C) FT-IR 1(2),352C Safety 2,354B	25g		27.60
33.50		R&S 1(2),1981J CORROSIVE LACHRYMATOR	100g		84.50
60.30	B420-1	1,2,3-Benzenetricarboxylic acid hydrate, 98% [36362-97-7] (hemimellitic acid).	1g		11.40
		C ₆ H ₃ (CO ₂ H) ₃ ·xH ₂ O FW 210.14 mp 190-192°(dec.) Beil. 9,976 FT-NMR 1(2),1088C	10g		62.70
14.50		FT-IR 1(2),201B Safety 2,354C R&S 1(2),1793O IRRITANT			
40.90	B458-9	1,2,4-Benzenetricarboxylic acid, 99+% [528-44-9] (trimellitic acid) C ₆ H ₃ (CO ₂ H) ₃	5g		10.60
95.90	★	FW 210.14 mp 231°(dec.) Beil. 9,977 Merck Index 12,9832 FT-NMR 1(2),1089B	100g		37.50
25.60		FT-IR 1(2),201D Safety 2,354D R&S 1(2),1795B RTECS# DC1980000 IRRITANT			
71.10	48,274-9	1,3,5-Benzenetricarboxylic acid, 95% [554-95-0] (trimesic acid) C ₆ H ₃ (CO ₂ H) ₃ ...	100g		32.60
	★	FW 210.14 mp >300° Beil. 9,978 FT-NMR 1(2),1089C IRRITANT	500g		108.70
8.80		May contain up to 5% acetic acid			
29.10	B460-0	1,2,4-Benzenetricarboxylic anhydride, 97% [552-30-7] (trimellitic anhydride) ...	25g		13.30
	★	FW 192.13 mp 165-169° Beil. 18,468 Merck Index 12,9833 FT-NMR 1(2),1329C	500g		16.90
26.70		FT-IR 1(2),334A Safety 2,355A R&S 1(2),1959G RTECS# DC2050000 HIGHLY TOXIC	1kg		17.50
74.70		MOISTURE-SENSITIVE			
	17,340-1	1,2,4-Benzenetriol, 99% [533-73-3] (hydroxyhydroquinone) C ₆ H ₃ (OH) ₃ FW 126.11	1g		22.80
12.90	★	mp 140°(subl.) Beil. 6,1087 Merck Index 12,1101 FT-NMR 1(2),299B FT-IR 1(1),1104A	5g		80.80
82.10		Safety 2,355B R&S 1(1),1297B RTECS# DC4200000	25g		320.00
		9,10- <i>o</i> -Benzeno-9,10-dihydroanthracene, see 11,761-7, Triptycene page 1698			
23.90	B470-8	Benzethonium chloride, 97% [121-54-0] (phemerol chloride) FW 448.10	5g		14.40
79.10	★	mp 162-164° Fieser 1,433 Merck Index 12,1103 FT-NMR 1(2),674C FT-IR 1(1),1322C	100g		20.70
25.80		Safety 2,355C R&S 1(1),1539E RTECS# BO7175000 TOXIC IRRITANT	500g		80.30
85.90		Benzhydrazide, see B1,307-1, Benzoic hydrazide page 154			
9.10	B485-6	Benzhydrol, 99% [91-01-0] (C ₆ H ₅) ₂ CHOH FW 184.24 mp 65-67° bp 297-298°	5g		7.00
22.70	★	Beil. 6,678 Merck Index 12,1121 FT-NMR 1(2),336A FT-IR 1(1),1125B Safety 2,355D	100g		18.60
79.50		R&S 1(1),1319C RTECS# DC7452000 IRRITANT	500g		58.90
		Benzhydrylamine, see Aminodiphenylmethane			
137.80		Benzhydryl bromide, see B6,540-3, Bromodiphenylmethane page 251			
457.70		Benzhydryl chloride, see 12,503-2, Chlorodiphenylmethane page 379			
14.30	B515-1	Benzil, 98% [134-81-6] C ₆ H ₅ COCOC ₆ H ₅ FW 210.23 mp 94-95° Merck Index 12,1107	5g		11.60
22.10	★	FT-NMR 1(2),876C FT-IR 1(2),58B Safety 2,356D R&S 1(2),1663B	100g		12.30
82.30		RTECS# DD1925000 IRRITANT	500g		32.90
			1kg		59.30
31.80		Benzil dioxime, see 28,997-3, Diphenylglyoxime page 698			
106.50	B519-4	Benzilic acid, 99+% [76-93-7] (diphenylglycolic acid) (C ₆ H ₅) ₂ C(OH)CO ₂ H	5g		12.40
14.40	★	FW 228.25 mp 150-153° Beil. 10,342 Merck Index 12,1109 FT-NMR 1(2),995B	100g		13.40
56.40		FT-IR 1(2),146A R&S 1(2),1747C RTECS# DD2064000	500g		53.10
	B522-4	Benzil monohydrazone, 98% [5344-88-7] C ₆ H ₅ C(=NNH ₂)COC ₆ H ₅ FW 224.26	25g		20.70
		mp 150-152° Beil. 7(1),394 FT-IR 1(1),1265A R&S 1(1),1459M	100g		55.70
		Precursor to diphenylketene by treatment with mercuric oxide.			
	19,412-3	Benzimidazole, 98% [51-17-2] FW 118.14 mp 172-174° Beil. 23,131	5g		11.60
	★	Merck Index 12,1111 FT-NMR 1(3),178B FT-IR 1(2),688A Safety 2,357B	100g		25.80
		R&S 1(2),2439B RTECS# DD5425000	500g		101.80
	29,678-3	5-Benzimidazolecarboxylic acid, 96% [15788-16-6] FW 162.15 mp >300°	5g		25.20
		Beil. 25(4),817 Safety 2,357C R&S 1(2),2443A IRRITANT	25g		104.70



B460-0



B470-8



29,678-3

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